

Listing of Claims

1. (Currently Amended) A non-aqueous electrolyte secondary battery comprising: a positive electrode comprising a compound oxide containing lithium; a negative electrode comprising a carbon material; a separator interposed between said positive electrode and said negative electrode; and a non-aqueous electrolyte comprising a non-aqueous solvent and LiPF₆ dissolved therein,

wherein said negative electrode contains 0.6 to 1.7 parts by weight of a particulate modified styrene-butadiene rubber and 0.7 to 1.2 parts by weight of a thickening agent per 100 parts by weight of said carbon material where the total amount of said particulate modified styrene-butadiene rubber and said thickening agent is 1.3 to 2.4 parts by weight per 100 parts by weight of said carbon material,

and the concentration of LiPF₆ in said non-aqueous electrolyte is 0.6 to 1.05 mole/liter,
wherein said particulate modified styrene-butadiene rubber contains at least one acrylonitrile unit.

2. (Cancelled)

3. (Currently Amended) The non-aqueous electrolyte secondary battery in accordance with claim 2 1, wherein said copolymer is in a form of a core-shell type particle.

4. (Original) The non-aqueous electrolyte secondary battery in accordance with claim 3, wherein, in a FT-IR absorption spectrum of said copolymer, the intensity of the absorption peak attributed to C≡N stretching vibration in said acrylonitrile unit is 0.1 to 2 times the intensity of the absorption peak attributed to C=C stretching vibration in said butadiene unit.

5. (Original) The non-aqueous electrolyte secondary battery in accordance with claim 1, wherein the mean particle size of said particulate modified styrene-butadiene rubber is 0.05 to 0.4 μm .

6. (Original) The non-aqueous electrolyte secondary battery in accordance with claim 1, wherein said thickening agent is carboxymethyl cellulose.

7. (Original) The non-aqueous electrolyte secondary battery in accordance with claim 1, wherein the concentration of LiPF₆ in said non-aqueous electrolyte is 0.7 to 0.9 mole/liter.

8. (Currently Amended) The non-aqueous electrolyte secondary battery in accordance with claim 1, wherein said positive electrode contains 0.4 to 2 parts by weight of a particulate modified acrylic rubber per 100 parts by weight of said compound oxide, and said particulate modified acrylic rubber contains a copolymer comprising a 2-ethylhexylacrylate unit, and an acrylic acid unit, and an acrylonitrile unit.

9. (Original) The non-aqueous electrolyte secondary battery in accordance with claim 8, wherein, in a FT-IR absorption spectrum of said copolymer, the intensity of the absorption peak attributed to C=O stretching vibration in said 2-ethylhexylacrylate unit and said acrylic acid unit is 3 to 50 times the intensity of the absorption peak attributed to C≡N stretching vibration in said acrylonitrile unit.

10. (Currently Amended) A negative electrode for a non-aqueous electrolyte secondary battery comprising: a carbon material as an active material; 0.6 to 1.7 parts by weight of a particulate modified styrene-butadiene rubber as a binder per 100 parts by weight of said carbon material; and 0.7 to 1.2 parts by weight of thickening agent per 100 parts by weight of said carbon material,

wherein the total amount of said particulate modified styrene-butadiene rubber and said thickening agent is 1.3 to 2.4 parts by weight per 100 parts by weight of said carbon material, and wherein said particulate modified styrene-butadiene rubber contains at least one acrylonitrile unit.

11. (Cancelled)

12. (Currently Amended) The negative electrode in accordance with claim 14 10, wherein said copolymer is in a form of a core-shell type particle.

13. (Original) The negative electrode in accordance with claim 12, wherein, in a FT-IR absorption spectrum of said copolymer, the intensity of the absorption peak attributed to C≡N stretching vibration in said acrylonitrile unit is 0.1 to 2 times the intensity of the absorption peak attributed to C=C stretching vibration in said butadiene unit.

14. (Withdrawn) A negative electrode for a non-aqueous electrolyte secondary battery comprising: a carbon material as an active material; and a particulate modified styrene-butadiene rubber as a binder; wherein the surface area of said carbon material is 300 to 600 m² per 1 gram of said particulate modified styrene-butadiene rubber.

15. (Withdrawn) The negative electrode in accordance with claim 14, wherein said particulate modified styrene-butadiene rubber contains a copolymer comprising an acrylonitrile unit, a styrene unit, and a butadiene unit.

16. (Withdrawn) The negative electrode in accordance with claim 15, wherein said copolymer is in a form of a core-shell type particle.

17. (Withdrawn) The negative electrode in accordance with claim 16, wherein, in a FT-IR absorption spectrum of said copolymer, the intensity of the absorption peak attributed to

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C≡N stretching vibration in said acrylonitrile unit is 0.1 to 2 times the intensity of the absorption peak attributed to C=C stretching vibration in said butadiene unit.